

On the 100 kev Transition in the Spectrum of  $Ce^{144}$  SOV/56-36-1-53/62

components which correspond to the energies 57.76 and 57.45 kev. This energy values agree well with those of K-100 and M-59, and they confirm the existence of both transitions. The authors separated out also the line  $L_1-100$ ,  $E_0 = 92.83$  kev. According to the results of the present investigation, the energy of the 100 kev transition has the exact value  $(99.7 \pm 0.1)$  kev. There are 1 figure and 6 references, 3 of which are Soviet.

ASSOCIATION: Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: September 22, 1958

Card 2/2

83674

S/048/60/024/009/007/015  
B063/B063

24.6720

AUTHORS:

Malyshcheva, T. V., Khotin, B. A., Lavrukhina, A. K.,  
Kryukova, L. N., Murav'yeva, V. V.

TITLE:

Investigation of New Neutron-deficient Platinum Isotopes /9

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1960,  
Vol. 24, No. 9, pp. 1109-1112

TEXT: The authors studied neutron-deficient platinum isotopes which were formed by disintegration of gold induced by 660-Mev protons. The platinum isotopes were studied by spectrum analysis of conversion electrons and on the basis of "genetic" relations. The platinum and iridium fractions of high specific activity were separated from 1-2 g of gold bombarded on the synchrocyclotron of the OIYaI (Joint Institute of Nuclear Research). A series of experiments was carried out, and a method was proposed for the carrier-free separation of platinum and iridium isotopes. This method is based on the separation of their chloride complex compounds by means of anion exchange (Fig. 1). The results of the spectrum analysis of conversion electrons of the iridium fraction are given in Ref. 6. The spectrum of

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83674

Investigation of New Neutron-deficient  
Platinum Isotopes

S/048/60/024/009/007/015  
B043/B063

the Pt conversion electrons was measured by means of a magnetic, spiral  $\beta$ -spectrometer having a resolution of 0.5%. The experimental spectrum is shown in Fig. 2. The results of measurement of the conversion lines are given in a table. The half-life of the Pt isotopes was determined by separating the daughter iridium from the Pt fraction at regular intervals during one to four hours (Fig. 3). The total half-life of  $Pt^{186}$  and  $Pt^{187}$  was calculated from the activity of  $Ir^{186}$  ( $T = 15$  hours) and  $Ir^{187}$  ( $T = 13$  hours) to be  $2.5 \pm 0.5$  hours. This is in agreement with the data of Ref. 6. The half-life of Pt was calculated from the activity of the daughter iridium having a half-life of three hours to be  $2.6 \pm 0.6$  hours. In accordance with Ref. 6, this is the half-life of the new isotope  $Pt^{184}$ . There are 3 figures, 1 table, and 10 references: 2 Soviet, 2 Canadian, and 1 German.

ASSOCIATION: Institut geokhimii i analiticheskoy khimii im. V. I. Vernad-  
skogo Akademii nauk SSSR (Institute of Geochemistry and  
Analytical Chemistry imeni V. I. Vernadskiy of the Academy of  
Sciences USSR), Nauchno-issledovatel'skiy institut yadernoy  
fiziki Moskovskogo gos. universiteta im. M. V. Lomonosova  
(Scientific Research Institute of Nuclear Physics of Moscow  
State University imeni M. V. Lomonosov)

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8/048/60/024/012/009/0-1  
2019/0056

## ATTORNS

Belmont, A. A.      Betech, A. K.      Kimberly, M. A.  
Brooks, L. B.      Myers, J. A.      Myers, J. A.  
Myers, J. A.      Myers, J. A.      Myers, J. A.  
Myers, J. A.      Myers, J. A.      Myers, J. A.

**75713**

Study of the decay of  $\frac{23}{27}\text{Th}$  and the low-temperature behavior of  $\frac{23}{27}\text{Th}$

**PHOTOGRAPH**

Novosil'ya Akademi i nauk SSSR. Seriya Khimicheskaya, 1950  
Vol. 24, No. 12, pp. 1404-1491

**TEXT.** The present paper was read at the 10th All-Union Conference on Nuclear Spectroscopy, which was held in Moscow from January 15 to January 20, 1966. The experimental techniques and results were published in a preliminary report [1]. The experiments were carried out by one and a half years of interaction with foreign scientists at the Institute of Nuclear Physics, Moscow. The collection was chemically separated 1-2 days after irradiation. The measurements of the  $\beta$ -spectrum and the  $\beta$ -concentrations were carried out by means of a scintillation spectrometer. The  $\beta$ - $\beta$  coincidences were measured by means of a  $\beta$ -spectrometer.

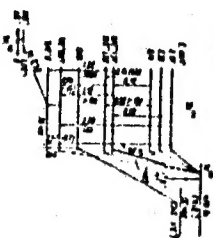
Cont 1/1

where, which was connected with a consistent circuit with a  $f$ -spectrometer. The  $f$ -spectrum of  $\text{Te}^{119}$  exhibits sensitivity of a constant  $10^{-12}$  to  $10^{-13}$  watt/cm<sup>2</sup> at 2700  $\pm$  50 sec. As shown by an exact investigation, the  $f$ -spectrum of  $\text{Te}^{119}$  is furnished by the isotope  $\text{Sb}^{119}$ , which is in equilibrium with  $\text{Te}^{119m}$  on the basis of these results, the authors assume that the  $\text{Te}^{119}$  and  $\text{Sb}^{119m}$  decay mainly into the ground state of the daughter nuclei. For the ground state of  $\text{Sb}^{119}$ , 0<sup>+</sup>, and for the initial state of  $\text{Te}^{119}$ , 0<sup>+</sup> or 1<sup>+</sup> is assumed. 6.1  $\pm$  0.1 days are given as the half-life of  $\text{Te}^{119}$ . From investigations carried out with the spin-lattice- $f$ -spectrometer, in which  $\text{Sb}^{119}$ ,  $\text{Te}^{121}$ , and  $\text{Te}^{123}$  were detected, the authors are able to state that all  $f$ -transitions having a half-life of 4-73 days are related to the decay of  $\text{Te}^{119}$ . They are transitions between the  $\text{Sb}^{119}$  levels. From a thorough study of these lines and the angular correlation of the  $f$ -radiation, the authors were able to set up the decay scheme of  $\text{Te}^{119}$  shown in Fig. 4. Finally, Cond 7/1.

Case 2:18-cv-01001-UNA Document 1-1 Filed 07/26/18 Page 1 of 1

The authors of [1] are to be commended for their arrival at the conclusion that the ionizer of [2] is, with a half-life of 1.7 years, a "highly efficient" ionizing device. The authors of [2] state that the half-life of the ionizer is 1.7 years and that the device is "highly efficient" for producing the source, and in Table 3, A. K. Kozlovskiy and G. G. Kozlovskiy, students of the Institute of Physics of the USSR Academy of Sciences, evaluating experimental results. There are 10 figures and 14 references.

3/048/60/024/212/OC9/011  
2019/2036



For 4, Carboxy-protected Fmoc B-protected  
 fragments were removed using 50% TFA in  
 1,1,2,2-tetrachloroethane

GNEDICH, A.V.; KRYUKOVA, L.N.; MURAV'YEVA, V.V.

Relative intensities of gamma transitions in strongly de-  
formed nuclei. Zhur.eksp.i teor.fiz. 38 no.3:726-728  
Mr '60. (MIRA 13:7)

1. Institut yadernoy fiziki Moskovskogo gosudarstvennogo  
universiteta.

(Gamma rays) (Nuclear reactions)

KRYUKOVA, L.N.; MURAV'YEVA, V.V.; DUDA, L.; MALYSHEVA, T.V.; KHOTIN, B.A.

Spectra of conversion electrons in neutron-deficient platinum  
isotopes. Izv.AN SSSR,Ser.fiz. 25 no.10:1257-1265 '61.  
(MIRA 14:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo  
gosudarstvennogo universiteta im. M.V.Lomonosova i Institut geokhimii  
i analiticheskoy khimii im. V.I.Vernadskogo Akademii nauk SSSR.  
(Platinum--Isotopes) (Electrons--Spectra)

KRYUKOVA, L. N.; MURAV'YEVA, V. V.; SHPINEL', V. S.; MALYSHEVA, T. V.;  
KHOTIN, V. A.

Level scheme of  $\text{Ir}^{189}$  excited by electron capture in  $\text{Pt}^{189}$ .  
Izv. AN SSSR. Ser. fiz. 16 no.12:1492-1494 D '62.  
(MIRA 16:1)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki  
Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova  
i Institut geokhimii i analiticheskoy khimii im. Vernadskogo  
AN SSSR.

(Iridium—Isotopes) (Platinum—Isotopes)  
(Electrons—Capture)

S/048/62/026/012/008/016  
B117/B186

AUTHORS: Kryukova, L. N., Murav'yeva, V. V., Shpinel', V. S.,  
Malysheva, T. V., and Khotin, V. A.

TITLE: Scheme of levels of Ir<sup>189</sup> excited on electron capture in Pt<sup>189</sup>

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26,  
no. 12, 1962, 1492 - 1494

TEXT: The decay of the neutron-deficient isotope Pt<sup>189</sup>,  $T_{1/2} = 10.5$  hrs, was studied by analyzing the conversion spectrum of the platinum fraction. In the 30 - 650 kev range, the measurements were made with a magnetic spiral spectrometer using a method and experimental conditions described earlier (Izv. AN SSSR. Ser. fiz., 24, 1109 (1960); 25, 1257 (1961)). Besides the lines found previously, two new ones were discovered: 381 kev,  $T_{1/2} =$  several hours, K457.1 and 644.5 kev,  $T_{1/2} = 10 \pm 1$  hr, K720.6. The energies of the  $\gamma$ -transitions in Ir<sup>189</sup> were measured and their multipole orders estimated (Tab. 2). Proceeding from the similarity of the odd isotopes Ir<sup>191</sup> and Ir<sup>193</sup>, a level scheme was proposed on the basis of the

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Scheme of levels of...

S/048/62/026/012/008/016  
B117/B186

sums and differences of the  $\gamma$ -transition energies (Fig. 1). It was supposed that the excited states with energies of 113 and 305 keV correspond to the first and second levels of the principal rotational band. The 94 keV level is a single-particle level  $1/2$  [400] and that of 175 keV is the first rotational level of this state. As no direct transition with an energy of 234 keV could be detected, doubt arose whether a level possessing this energy was present, which could be regarded as the second rotational level of the  $1/2^+$  [400] state. Levels with energies of 568 and 720 keV were not interpreted. If the energies of the lower levels of the odd Ir isotope are represented graphically as a function of the mass number  $A$  or the number of neutrons  $N$ , a smooth curve results. It was therefore concluded that the equilibrium form of the nucleus does not undergo any considerable change in the transition from  $N = 122$  and  $N = 116$ . This paper was presented at the 12th Annual Conference on Nuclear Spectroscopy held in Leningrad from January 26 to February 2, 1962. There are 2 figures and 2 tables. ✓

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Scheme of levels of...

S/048/62/026/012/008/016  
B117/B186

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gos. universiteta im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics of the Moscow State University imeni M. V. Lomonosov); Institut geokhimii i analiticheskoy khimii im. Vernadskogo Akademii nauk SSSR (Institute of Geochemistry and Analytical Chemistry imeni Vernadskiy of the Academy of Sciences USSR)

Fig. 1. Energy level diagram of  $\text{Ir}^{189}$ .

Table 2. Energy and multipole order of the  $\gamma$ -transitions in  $\text{Ir}^{189}$ .

Legend: (1) Possible values of the multipole orders; (2) small admixtures.

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S/048/62/026/012/014/016  
B117/B102

AUTHORS: ~~Kryukova, L. N.~~, Murav'yeva, V. V., Forafontov, N. V., and Shpinel', V. S.

TITLE:  $e^- \gamma$ -coincidences in the  $Pt^{188}$  decay

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 12, 1962, 1521 - 1522

TEXT: A double-ray  $\beta$ -spectrometer together with a luminescence  $\gamma$ -spectrometer was used to study the spectra of  $\gamma$ -rays coinciding with conversion electrons (L55, K140, K187 and K195). The results confirmed the decay scheme of the 10-d  $Pt^{188}$  proposed earlier (Nuclear Data Sheets, no. 3 (1959)).  $\gamma$ -rays of 140, 380 and 410 keV as well as K-series of X-rays coincide with L55. The intensities of these K-series confirm that no K-captures take place up to the 55, 437 and 473 keV levels of  $Ir^{188}$ . K195 electrons play the main part in the coincidence between the neighboring lines K187, K195 and the 280 keV- $\gamma$ -rays. The non-coincidence 187 and 195 keV-quanta coincide with the X-ray K-series. The coincidence between K140 electrons and 280-keV  $\gamma$ -quanta verifies the existence of a Card 1/2

$e^+ \gamma$ -coincidences in ...

S/048/62/026/012/014/016  
B117/B102

cascade between 140 and 280 kev. The analysis of coincidence and non-coincidence  $\gamma$ -spectra of  $Pt^{188}$  served to determine relative intensities of the  $\gamma$ -lines. Comparison between the  $\gamma$ -intensities and the intensities of the conversion lines resulted in the following ratio of K-shell conversion coefficients:  $\alpha_{K140} : \alpha_{K187} : \alpha_{K195} : \alpha_{K280} : \alpha_{L380} : \alpha_{K410} : \alpha_{K470}$  = 0.5:1:1:( $\leq 0.1$ ):( $\leq 0.05$ ):( $\leq 0.03$ ):( $\leq 0.05$ ). This paper was presented at the 12th Annual Conference on Nuclear Spectroscopy in Leningrad from January 26 to February 2, 1962. There are 2 figures and 1 table. ✓

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskva-kogo gos. universiteta im. M. V. Lomonosova (Scientific Research Institute of Nuclear Physics of the Moscow State University imeni M. V. Lomonosov)

Card 2/2

ACCESSION NR: AP4010300

S/0048/64/028/001/0098/0101

AUTHOR: Kryukova, L.N.; Murav'yeva, V.V.; Forafontov, N.V.; Malyshova, T.V.; Khotin, B.A.

TITLE: Investigation of the decay schemes for platinum 189 and iridium 189 by the method of electron-gamma coincidences [Report, Thirteenth Annual Conference on Nuclear Spectroscopy held in Kiev 25 Jan to 2 Feb 1963]

SOURCE: AN SSSR. Izvestiya, Seriya fizicheskaya, v.28, no.1, 1964, 98-101

TOPIC TAGS: decay scheme, level diagram, platinum 189, iridium 189, conversion electron spectrum, electron gamma coincidence, conversion electron, platinum decay, iridium decay, platinum, iridium

ABSTRACT: The purpose of the investigation was to check, correct and amplify the decay schemes for platinum 189 and its daughter iridium 189. The Pt189 was obtained by separation from the products of spallation of a gold target by 660-MeV protons. The study was carried out mainly by the method of recording e-γ coincidences. The conversion electron spectrum and some of the coincidence spectra are reproduced. While the results largely substantiate the scheme for Pt189 proposed by B.Harmatz, T.H.Handley and J.W.Mihelich (Phys.Rev.128, 1186, 1962), a number of possible differences and discrepancies are noted. [The experimental work was per-

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ACCESSION NR: AP4010300

formed prior to the publication of the paper by Karmatz et al.]. A level diagram for  $\text{Ir}^{189}$  is given. Orig.art. has: 2 tables and 5 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Scientific Research Institute of Nuclear Physics, Moscow State University); Institut geokhimi i analiticheskoy khimii Akademii nauk SSSR (Institute of Geochemistry and Analytic Chemistry, Academy of Sciences SSSR)

SUBMITTED: 00

DATE ACQ: 10Feb64

ENCL: 00

SUB CODE: NS

NO REF SOV: 005

OTHER: 002

Card 2/2

KRYUKOVA, L.N.; KORDYUKOVICH, V.O.; SOROKIN, A.A.; RUDENKO, N.P.

Lifetime of the 55Kev. state in the  $\text{Ir}^{188}$  nucleus. Izv. AN SSSR. Ser. fiz. 29 no.7:1089-1091 J1 '65. (MIRA 18:7)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta im. M.V.Lomonosova.

L 09230-67 EWT(m)/EWF(t)/ETI IJP(c) JD/JG  
ACC NR: AP7002799

SOURCE CODE: UR/0048/66/030/008/1360/1363

AUTHOR: Kryukova, L. N.; Kordyukovich, V. O; Sorokin, A. A. 20

ORG: Scientific Research Institute of Nuclear Physics, Moscow State University im.  
M. V. Lomonosov (Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo  
gosudarstvennogo universiteta)

TITLE: Lifetimes of the lower excited states of  $\text{Ir}^{189}$  /4

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 8, 1966, 1360-1363

TOPIC TAGS: deformed nucleus, iridium 11

ABSTRACT: To verify the assumption that the lower excited states of  $\text{Ir}^{189}$  may be regarded as levels of a deformed nucleus which represent a system of two rotational bands based on single-particle Nilsson states  $3/2^+/402/$  and  $1/2^+/400/$ , the lifetimes of the first and second excited levels of  $\text{Ir}^{189}$  (with energies of 94 and 113 keV) were measured. The source used was a Pt fraction chemically isolated from a proton-irradiated Au target. The lifetimes were measured by means of a  $\beta\gamma$ -coincidence spectrometer. Pulses from the photomultiplier anodes were transmitted to a time-amplitude converter. Findings: For the 94-keV level it was found that  $T_{1/2}(M1)$   $1.36 \cdot 10^{-9}$  sec and  $T_{1/2}(E2)$   $9.6 \cdot 10^{-9}$  sec. These findings strengthen the theory that the 94-keV level is chiefly a single-particle (proton) level and the 113-keV level is the second rotational term of the fundamental rotational band with  $K = 3/2$ . Orig. art. has: 4 figures. [JPRS: 39,040]

Card 1/1m4 SUB CODE: 20 / SUBM DATE: none / ORIG REF: 003 / OTH REF: 006

0925 1687



BUKHANTSEVA, G.I.; KRYUKOVA, L.P.

Dissertations on the organization of public health, sanitary statistics and the history of medicine, approved by the higher Certification Commission in 1958-1961. Sov.zdrav. 21 no.12:74-77 '62. (MIRA 15:12)  
(BIBLIOGRAPHY--MEDICINE)(BIBLIOGRAPHY--PUBLIC HEALTH)

KRYUKOVA, L.P.; HANSKAYA, R.I., red.

[Use of plastics in the manufacture of motor vehicles, tractors and agricultural machinery; bibliographical index. Soviet and foreign literature for 1960-1963 (1st half), 204 citations] Primenenie plasticheskikh mass v avtotraktornom i sel'skokhoziaistvennom mashinostroenii; bibliograficheskii ukazatel. Otechestvennaia i inostrannaia literatura za 1960-1963 gg. (I pol.) 204 nazv. (MIRA 17:9)

1. Tsentral'naya nauchno-tekhnicheskaya biblioteka traktornogo i sel'skokhozyaystvennogo mashinostroyeniya.

KRYUKOVA, L.V. (Moskva)

Method of removing vitamin A from casein. Vopr.pit. 17 no.1:76-78  
Ja-F '58. (MIRA 11:4)

1. Iz laboratorii izucheniya vitaminov (zav. - prof. V.V.Yefremov)  
Instituta pitaniya AMN SSSR, Moskva.

(CASEIN,  
purification from vitamin A (Rus))  
(VITAMIN A,  
purification from casein (Rus))

KRYUKOVA, L. V.: *Master Med Sci (diss)* -- "The effect of qualitatively different fats in the diet on the development of A-vitamin insufficiency in white rats".  
Moscow, 1959. 14 pp (*Acad Med Sci USSR*), 200 copies (KL, No 13, 1959, 112)

KRYUKOVA, L.V.

Effects of various types of edible fats and of vitamin E on  
the development of vitamin A deficiency in white rats. Vop.  
pit. 18 no.4:42-47 J1-Ag '59. (MIRA 12:10)

1. Iz laboratorii izucheniya vitaminov (sav. - prof.V.V.  
Yefranov) Instituta pitaniya AMN SSSR, Moskva.

(FATS, eff.

on exper. vitamin A defic. (Rus))

(VITAMIN E, eff.

sann)

(VITAMIN A DEFICIENCY, exper.

eff. of fats & vitamin E (Rus))

KRYUKOVA, L.V.

Origin of tail ulcers in vitamin A deficiency in rats. Vop. pit.  
20 no. 1:45-49 Ja-F '61. (MIRA 14:2)

1. Iz laboratorii izucheniya vitaminov (zav. - prof. V.V.Yefremov)  
Instituta pitaniya AMN SSSR, Moskva.  
(DEFICIENCY DISEASES) (ULCERS)

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorption of casein— $I^{13}$  and methionine— $S^{35}$  from the digestive tract at various times after the resection of two-thirds of the stomach.  
Biul. eksp. biol. i med. 51 no.4:43-47 Ap '61. (MIRA 14:8)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I.Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - akademik V.N.Chernigovskiy) AMN SSSR, Moskva.  
Predstavlena akademikom V.N.Chernigovskim.  
(STOMACH—SURGERY) (CASEIN) (METHIONINE)

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorptive capacity of the digestive tract at different periods of time following the partial resection of the small intestine. Biul. eksp.biol.i med. 54 no.7:22-26 J1 '62. (MIRA 15:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I.Filipovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V.Parin) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR V.V.Parinyu. (INTESTINES—SURGERY) (METHIONINE) (DIGESTIVE ORGANS)



KRYUKOVA, L.V.

Effect of ascorbic acid and certain bioflavonoids on the  
resistance of skin capillaries in guinea pigs. Vop. pit.  
22 no.2:70-72 Mr-Ap '63. (MIRA 17:2)

1. Is kafedry biokhimii (zav. - prof. I.I. Matusis)  
Altayskogo meditsinskogo instituta, Barnaul.

OSTROVSKIY, N.I.; KRYUKOVA, M.A.

Field cultivation of ergot in the U.S.S.R. Med.prom. 13 no.12:  
11-15 D '59. (MIRA 13:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh  
i aromaticeskikh rasteniy.  
(ERGOT)

VASINA, A.N.; KRYUKOVA, M.A.; SHALAGINA, A.I.

Diseases and pests of ginseng in Moscow Province. Mat. k izuch.  
zhen'shenia i lim. no.4:171-175 '60. (MIRA 13:9)

1. Vsesoyuznyy institut lekarstvennykh i aromaticeskikh rasteniy.  
(MOSCOW PROVINCE—GINSENG—DISEASES AND PESTS)

OSTROVSKIY, N.I.; KRYUKOVA, M.A.; RAN'KOVSKAYA, A.M.

Separation of ergot from the rye grain in saline solutions. Med.  
prom. 14 no.4:34-36 Ap '60. (MIRA 13:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekstvennykh  
i aromaticeskikh rasteniy.  
(ERGOT)

OSTROVSKIY, N.I.; SHALAGINA, A.I.; KRYUKOVA, M.A.; BAN'KOVSKAYA, A.N.

Effect of gibberellic acid on ergot (*Claviceps purpurea* Tul.) in  
saprophytic and parasitic cultures. *Fiziol.rast.* 8 no.3:358-360  
'61. (MIRA 14:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarstvennykh i  
aromaticeskikh rasteniy, Moskva.  
(Gibberellic acid) (Ergot)

OSTROVSKIY, N.I.; PAN'KOV, YU. N.; PRYKHOD'KO, V. I.

Biometric and clinical characteristics of cultivated ergot.  
Apt. delo 13 no.3126-31 My-Je '64. (MIRA 18:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut lekarskoykh  
i khimicheskikh preparatov, Bittsa.

L 42943-66 ENT(m)/ENP(t)/ETI IJP(c) JH/JD/WW/QD/JG

ACC NR: AT6029312

SOURCE CODE: UR/0000/66/000/000/0068/0083

AUTHOR: Filimonov, S. S.; Kryukova, M. G.; Teplov, S. V.

ORG: Power Engineering Institute im. G. M. Krzhizhanovskiy (Enegeticheskiy institut)

TITLE: Aluminum as a high temperature coolant

SOURCE: Moscow. <sup>41</sup>Energeticheskiy institut. Teploobmen v elementakh energeticheskikh ustanovok (Heat exchange in power installation units). Moscow, Izd-vo Nauka, 1966, 68-83

TOPIC TAGS: <sup>thermal</sup>high-temperature reactor, ~~reactor cooling~~, <sup>nuclear</sup>nuclear reactor, <sup>metal</sup>reactor coolant, ~~liquid metal~~ cooling, aluminum, ~~coolant~~, ~~liquid aluminum~~, liquid aluminum coolant

ABSTRACT: Since 1959, the Power Engineering Institute im. G. M. Krzhizhanovskiy has been engaged in a study dealing with the use of liquid aluminum as a coolant for high temperature nuclear reactors. The experimental equipment and some of the results of this study are described. From the study, it was concluded that the difficulties encountered in the practical use of aluminum as a coolant can be successfully overcome, and that the heat transfer during the flow of liquid aluminum through pipes can be calculated with the equations used for calculating the heat transfer of other liquid metal coolants. Orig. art. has: 4 figures and 5 tables. [AV]

SUB CODE: 18/ SUBM DATE: 05Apr66/ ORIG REF: 016/ OTH REF: 008/ ATD PRESS: 5069  
Card 1/1 MLP

FILIMONOV, S.S.; KRYUKOVA, M.G.; TEPOV, S.V.; AYGISTOV, A.A.

Experimental setup for studying heat transfer during the  
motion of liquid aluminum in tubes. Teplofiz. vys. temp.  
1 no.2:318-320 S-0'63. (MIRA 17:5)

1. Energeticheskiy institut imeni G.M. Krzhizhanovskogo.



KRYUKOVA, M.G.

Heat exchange of gas and solid particles. Inzh.-fiz.sbur. no.4, 10-16  
Ap '58. (MIRA 11:7)

1. Energeticheskiy institut AN SSSR, g. Moskva.  
(Heat--Radiation and absorption)

26185

S/081/61/000/012/010/028

B117/B203

26.5200

AUTHOR: Kryukova, M. G.

TITLE: Intensity of heat exchange between gas and solid particles

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1961, 310, abstract 12M46 (12I46). (Energotekhnol. ispol'z. topliva. M., AN SSSR, 1960, 215-230)

TEXT: The author studied the heat exchange between a single solid particle and air in pipes of 100 and 200 mm diameter. She used smooth steel balls with a diameter  $d = 12.5-50$  mm, balls with conical depressions on the surface (relative roughness  $0.0079-0.016$ ) and  $d = 31.6$  mm, steel cubes of 20 and 30 mm, irregularly shaped particles with equivalent  $d = 24.4$  mm, rotating smooth and grooved balls with  $d = 19.8$  mm; the speed of the balls was 500-6000 rpm. The particles were heated to  $350^{\circ}\text{C}$ . and quickly introduced into the central part of the pipe. The heat-transfer coefficient was calculated from the equation  $\theta = \theta_a \exp(-3 \text{ Bi Fo})$ , where  $\theta$  and  $\theta_a$  are the temperature differences between particle and surrounding medium at the

Card 1/2

Intensity of heat exchanges between ...

26185  
S/081/61/000/012/010/028  
B117/B203

initial and any point of time,  $Bi$  and  $Fo$  are the Biot and Fourier criteria. A radial temperature gradient was assumed to be missing in the balls. The  $Fo$  criterion was 200-150,000 in the experiments. The equation  $Nu = aRe^n$  was found to hold for all cases investigated. The heat-transfer coefficient ( $\alpha$ ) at  $Re < 2 \cdot 10^4$  is not affected by an increase in relative roughness. The rotation of the ball, the orientation of the cube, and the shape of the particle do not affect the intensity of heat exchange. For studying the effect of turbulence of the boundary layer on the heat-exchange intensity, tests were made with balls of  $d = 25.4$  mm to which agitating Prandtl-rings were attached. The tests were conducted at  $Re 10^4 - 8 \cdot 10^4$ . The optimum angle between ring plane and flow was found to be  $49^\circ$ . [Abstracter's note: Complete translation.]

Card 2/2

ACCESSION NR: AP4004156

S/0294/63/001/002/0318/0320

AUTHOR: Filimonov, S. S.; Kryukova, M. G.; Teplov, S. V.; Aygistov, A. A.

TITLE: Test stand for studying heat transfer in the flow of liquid aluminum in a pipe

SOURCE: Teplofizika vy\*sokikh temperatur, v. 1, no. 2, 1963, 318-320

TOPIC TAGS: heat transfer, liquid aluminum heat exchanger, liquid metal, liquid aluminum, aluminum heat transfer, heat exchanger, liquid metal coolant, coolant, fluid flow

ABSTRACT: A test stand has been designed for heat-transfer studies with liquid aluminum. The use of liquid aluminum as a heat-transfer agent in heat exchangers operating at temperatures exceeding 1200C is being investigated since difficulties are encountered with alkali metals at such temperatures. Fig. 1 of the Enclosure shows the test assembly. An induction-type electromagnetic pump with a traveling magnetic field (capacity 3 m<sup>3</sup>/hr) was specially

Card 1/3

ACCESSION NR: AP4004156

developed for the assembly. Two types of heating can be used: an electric nichrome heater, which will heat the pipe uniformly at a heat flux of  $5 \times 10^6$  kcal/m<sup>2</sup>.hr, or an electron bombardment heater, which will give higher heat fluxes. Thermal expansion of the graphite parts is compensated by means of sylphon expansion joints. All parts of the assembly in contact with the aluminum are made from pyrolytic graphite. Preliminary testing for 200 hr with individual test runs of up to 12-hr duration showed the design to be satisfactory and the assembly suitable for heat transfer studies. Orig. art. has: 1 figure.

ASSOCIATION: Energeticheskiy institut im. G. M. Krzhizhanovskogo  
(Power Engineering Institute)

SUBMITTED: 15Apr63

DATE ACQ: 26Dec63

ENCL: 01

SUB CODE: PR

NO REF SOV: 000

OTHER: 000

Card 2/3

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R000826920006-8**

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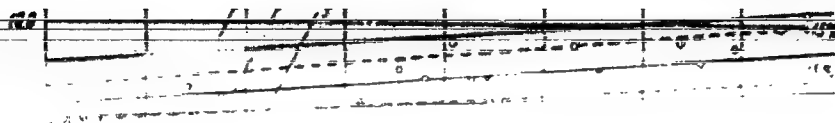
**CIA-RDP86-00513R000826920006-8**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R000826920006-8"**

ACCESSION NR: AP5001156

ENCLOSURE: 01





KRYUKOVA, M.V.

Suppurative processes in the lungs caused by aspiration of unnoticed foreign bodies into the respiratory tract. Khirurgiya 34 no.4:74-77 Ap '58 (MIRA 11:7)

1. Iz 1-y kafedry khirurgii TSentral'nogo instituta usovershenstvovaniya vrachev (sav. kafedroy - saslyzhennyy deyatel' nauki, deystvitel'nyy chlen AMN SSSR prof. V.R. Braytsev) na baze TSentral'noy klinicheskoy bol'nitsy ineni Semashko Ministerstva putey soobshcheniya (nach. bol'nitsy V.P. Akopov).

(RESPIRATORY TRACT, foreign body

unnoticed aspiration causing suppurative lung dis. (Rus))

(LUNG DISEASES, etiology & pathogenesis

unnoticed aspiration of for.bodies causing suppurative lung dis. (Rus))

KALAMKAROVA, M.B.; SAMOSUDOVA, N.V.; KRYUKOVA, M.Ye.; OGIYEVETSKAYA, M.M.

Studies on the localization of contractile muscle proteins  
following denervation with the aid of labeled antibodies.  
Biofizika 8 no.6:696-698 '63. (MIRA 17:7)

1. Institut biologicheskoy fiziki AN SSSR, Moskva.

KRYUKOVA, N.

There won't be any fairy tales. Izobr.i rats. no.3:14 '63.  
(MIRA 16:4)  
(Technological innovations)

KRYUKOVA, N.

Artist and nature. Izobr. 1 rats. no.10:24-25 '63.

(MIRA 17:2)

KRYUKOVA, N.

How he became a private undertaker. Izobr. i rats. no. 7:23-24  
'63. (MIRA 16:9)

1. Korrespondent zhurnala "Izobretatel' i ratsionalizator."  
(Food machinery)

KRYUKOVA, N. (Krasnodar)

Zakharchenko Junior. Izobr. i rats. no.6:26-27 '63.  
(MIRA 16:8)

KRYUKOVA, N.

Glass ballad. Isobr.1 rats. no.5 (201):33-34 '63. (MIRA 16:7)  
(Glass--Transportation)

KRYUKOVA, N.A.; KARAPETIAN, Ye.A.

Some characteristics of pyridoxine metabolism in narcoleptic patients. Vop. mod. khim. 10 no.5:464-466 S-O '64.

(MIRA 18:11)

1. Laboratoriya klinicheskoy neyrokhimii Instituta fiziologii imeni Pavlova AN SSSR i psikhonevrologicheskaya bol'nitsa imeni Pavlova, Leningrad.



AUTHORS: Makiyenko, N.I., Kryukova, N.A. and Okolovich, A.M. SOV/136-58-12-2/22

TITLE: Increasing Metals Extraction in the Flotation of Poly-metallic Ores by Making Cleaning Operations More Effective (Uvelicheniye izvlecheniya metallov pri flotatsii polimetallicheskikh rud putem povysheniya effektivnosti perechistnykh operatsiy)

PERIODICAL: Tsvetnyye Metally, 1958, Nr 12, pp 6 - 10 (USSR)

ABSTRACT: The two most common methods of removing excess of reagent in flotation are the addition of activated carbon (Ref 1) and the use of sodium sulphide (Ref 2). Work directed by I.N. Flaksin, Corresponding Member of the Ac.Sc.USSR, showed that another way is the change of the pH of the flotation liquid to regulate the xanthate concentration in the liquid phase of the pulp and produce some reduction in foaming (Ref 3). Laboratory experiments on crude lead concentrate obtained from the Tekeliyskaya obogatitel'naya fabrika (Tekeli Beneficiation Works) showed that by altering pH to 7.3 from the normal range of 9.0-8.3, the zinc concentration in the froth product was reduced by 5-7% without increasing lead losses (Figure 2 shows the recovery of lead and zinc as functions of pH); careful control of the process was essential.

Card1/3

Increasing Metals Extraction in the Flotation of Polymetallic Ores  
by Making Cleaning Operations More Effective

SOV/136-58-12-2/22

Pulp density was also important (Figure 3); G.M. Dmitriyeva, Candidate of Technical Sciences, participated in this work. Results (Table 1) of comparative flotations of the concentrate with three cleanings of the froth products showed that with decreasing alkalinity in a given operation, improvements of results obtained by using standard depressors is possible. The results (Table 2) of a four-month trial of the method in periods when ore quality remained relatively constant confirmed the laboratory results (Figure 4) and showed that the use of sulphuric acid gave a concentrate with 4% less zinc and ( $Al_2O_3 + SiO_2$ ) each. The success of the method enabled water-spraying in the cleaning chambers to be dispensed with and saved 14.7 kopeysk per ton of treated ore. An indicator (0.2% alcohol solution of bromethymol blue) is used to find the pH. An editorial note states

Card 2/3

SOV/136-58-12-2/22  
Increasing Metals Recovery in the Flotation of Polymetallic Ores by  
Making Cleaning Operations More Effective

that the authors' explanation of the works' trials results  
is not confirmed by the experimental material presented.  
There are 4 figures, 4 tables and 4 Soviet references.

ASSOCIATIONS: Tekeliyskaya obogatitel'naya fabrika  
(Tekeli: Beneficiation Works) and  
Institut gornogo dela AN SSSR  
(Mining Institute of the Ac.Sc.USSR)

Card 3/3

PLAKSIN, Igor' Nikolayevich; OKOLOVICH, Anna Mikhaylovna; IMITRIYEVA, Gali Mikhaylovna; MAKIYENKO, Ivan Ignat'yevich; KRYUKOVA, Nina Andreyevna; LEBEDEV, A.K., otv. red.; KACHALKINA, Z.I., red. izd-va; MAKSIMOVA, V.V., tekhn. red.; IL'INSKAYA, G.M., tekhn. red.

[New technology for the dressing of lead-zinc ores] Novaya tekhnologiya obogashcheniya svintsovo-tsinkovoi rudy. Moskva, Gos. nauchno-tekhn.izd-vo lit-ry po gornomu delu, 1961. 127 p.  
(MIRA 15:1)

(Ore dressing)

*KRYUKOVA, N.F.*

3(8)

AUTHORS:

SOV/7-59-2-3/14  
Komlev, L. V., Filippov, M. S., Danilevich, S. I., Ivanova,  
K. S., Kryukova, N. P., Kuchina, G. N., Mikhalevskaya, A.D.

TITLE:

Age Data by the Argon and Lead Isotope Method for Some Granites  
and Pegmatites of the Central Dnepr Region (Vozrastnyye  
dannyye argonovogo i svintsovo-izotopnogo metodov dlya neko-  
torykh granitov i pegmatitov srednego Pridneprov'ya)

PERIODICAL: Geokhimiya, 1959, Nr 2, pp 110-115 (USSR)

ABSTRACT:

This report was presented at the 7th meeting of the Commission  
for Determination of the Absolute Age of Geological Formations.  
An investigation was made of mica from granites and pegmatites,  
and of accessory monazites and orthites from pegmatite veins.  
In order to calculate their age from the results of the K/Ar  
determination the disintegration constants according to  
Wetherill et al. were used (Ref 9). For comparative purposes  
the age was also calculated by the constants found by E. K.  
Gerling (Ref 10), which had until recently been used in the  
Soviet Union for age determinations. Table 1 lists 16 determina-  
tions of micas from granites and granodiorites. Values are  
between 1830 and 2280 million years; biotite from the Yamburg-  
skiy Quarry on the Mokraya Sura River attains 2900 and even

Card 1/2

2910 million years. Furthermore, two samples each of orthite and monazite were investigated (Tables 2, 3, 4). In order to check the results these analyses were repeated two times. Orthite from Korbino has an age of 2100-2610 million years, biotite from the same place 2280 million years (Table 1). Similarly, it was possible to compare two monazites from the Novo-Danilovskiy Quarry : monazites 1520-2100 million years, biotite 2020 million years. Orthite of Podstepnoye has an age of 2400-3000 million years. This shows that orthite pegmatites may be characterized as relics. There are 4 tables and 12 references, 11 of which are Soviet.

ASSOCIATION: Radiyevyy institut im. V. G. Khlopina, AN SSSR, Leningrad  
(Radium Institute imeni V. G. Khlopina, AN USSR, Leningrad)

SUBMITTED: July 2, 1958

Card 2/2

KOMLEV, L.V.; L'VOV, B.K.; DANILEVICH, S.I.; KRYUKOVA, N.F.; MIKHALEVSKAYA, A.D.

Absolute age of granitoids of the Kochkar complex (Southern Urals).  
Uch.zap. LGU no.312:240-257 '62. (MIRA 15:6)  
(Ural Mountains—Granite) (Geological time)

KUZNETSOVA, O.K.; KRYUCHKOVA, N.I.

Species composition of salmonella isolated during a 5-year period.  
Zhur.mikrobiol., epid. i immun. 42 no.9:139-140 S '65.

(MIRA 18:12)

1. Sanitarno-epidemiologicheskaya stantsiya Leningrad-Vitebskogo  
otdeleniya Oktyabr'skoy zheleznoy dorogi. Submitted August 17,  
1963.



KRYUKOVA, Nadezhda Ivanovna; ANDREYEV, Yevgeniy Yevgen'yevich

[Use of atomic energy in the national economy; methodological instructions and test problems] Primenenie atomnoi energii v narodnom khoziaistve; metodicheskie ukazaniia i kontrol'nye zadaniia. Moskva, Vysshiaia shkola, 1963. 55 p. (MIRA 17:9)

1. Russia (1923- U.S.S.R.) Ministerstvo vysshego i srednego spetsial'nogo obrazovaniya.

PROCESSES AND PROPERTIES OF  
117 244 144 04444

The penetration rate of infiltrated sugars to the points of enzyme action in the cell. A. Kurmanov and N. Kuznetsov. *Biokhimiya* 2, 674 80(1937).--The penetration of sucrose into the cells (from the intercellular space through the cell wall) during the first hrs. after infiltration goes on considerably faster than its hydrolysis by the cell invertase. Preliminary treatment of the protoplasm with  $\text{CaCl}_2$  lowers the hydrolyzing action of invertase; the same effect is produced by the use of  $\text{KCl}$ , which, in contrast to  $\text{CaCl}_2$ , increases the permeability of the protoplasm. The synthesis of sucrose by invertase is accelerated in the presence of  $\text{K}$  ions, whereas  $\text{Ca}$  ions are almost without effect. The synthesis of starch by the leaves of *Hydrangea hortensis* from infiltrated glucose proceeds at the rate of 8.2-8.7 mg. per hr. (for 1 g. dry substance), and for infiltrated maltose, at the rate of 3.3 mg. This rate is considerably reduced by preliminary treatment of the protoplasm with  $\text{CaCl}_2$ .

H. Cohen

THE INST. OF BIOCHEMISTRY, ACADEMY OF SCIENCES, USSR, MOSCOW

ASB-51.4 METALLURGICAL LITERATURE CLASSIFICATION

1939-1940

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112

**PROCESSES AND PROPERTIES**

**THE EFFECT OF NARCOTICS ON THE REVERSIBLE ACTION OF INVERTASE IN PLANT CELLS. A. KURANOV AND N. KRYUKOVA. *Biokhimiya* 2, 730-3 (1937).—Small doses of a narcotic (ether or ethylurea) applied to the leaves of white cyclamen (*Cyclamen persicum*), increase sugar synthesis and retard hydrolysis. In spite of ether, the max activation of synthesis is observed with a concn of 0.5 mg. ether per l. of air. As the dose is increased, the reverse takes place, i. e., the rate of synthesis decreases, whereas the hydrolysis rate increases. Phenylurethan, in 0.005% concn, increases hydrolysis and weakens synthesis in the leaves of eye (*Nuclea ornata*) and oat (*Avena sativa*). H. Cohen**

1. Institute of Biochemistry of the Academy of Sciences of USSR, Moscow

450-350 METALLURGICAL LITERATURE CLASSIFICATION

2

Ca

Effects of ethylene on the reversible action of invertase on fruit subjected to complementary ripening. A. L. Kuranov and N. N. Koryukova. *Biotekhnika* 3, 202 15 (in English, 210-17)(1958); *Plants & Industry* 41, 984. - During the complementary ripening of various fruits (oranges, lemons, mandarins, cucumbers, tomatoes) in  $C_{11}$ , the reversible action of invertase undergoes marked variations. In general,  $C_{11}$  lowers the synthesis, hydrolysis ratio. This displacement of equil. seems to be due, in the 1st place, to a weakening of the adsorption phenomena at the surface of the macroheterogeneous cellular formations. Part of the enzyme subsequently goes into microheterogeneous soln., where it can produce only a unilateral hydrolytic effect. A. P. C.

Inst. of Biochemistry, Acad. of Sciences, USSR, Moscow

ASB-51.6 METALLURGICAL LITERATURE CLASSIFICATION

CA

Synthesizing and hydrolyzing activity of phosphatases in the living tissues of higher plants. A. Kormanov and N.

Kryukova. *Russkaya Akad. Nauk* 1960. The method of vacuum infiltration was applied to the study of phosphatases in living plant tissues. The highest synthesizing phosphatase values are found in chlorenchym leaves, the lowest in hyaline epidermis. Of the several phosphatases tested, phytase was the strongest in hydrolytic action. 11.

Institute of Biochemistry of the Academy of Sciences, USSR, Moscow

ca

11d

Participation of phosphatase in the synthesis of sucrose. A. L. Kuranov and N. N. Myukova. *Biokhimiya* 4, 229-30 (1939); cf. C. A. 33, 65P. Infiltration into chicory leaves of a mist. of glucose, fructose and  $\text{NaH}_2^{14}\text{O}$ , leads to an energetic formation of org. P compounds and sucrose. The synthetic action of invertase in the leaves of P-deficient sugar beets is only about a third of the normal value; infiltration of  $\text{NaH}_2^{14}\text{O}$ , causes a lively sucrose synthesis. During P starvation, the leaves of the sugar beet contain only about half the normal amt. of hexose monophosphate. The amt. of hexose diphosphate is only slightly lower. Plants suffer during P starvation because of their inability to form sufficient hexose monophosphate, thus sharply decreasing sucrose synthesis. In most plants, the synthesis of sucrose from fructose is

much more vigorous than from glucose or invert sugar. The rate of sucrose synthesis in plants in many cases is limited by the amt. of fructose monophosphate present. H. Prewster

Inst. of Biochem. of the Academy of Sciences,  
USSR, Moscow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

PROCESSING AND PROPERTIES INDEX	
Enzyme indexes of the hardness of the quinine tree	
A. V. Kurmanov and N. N. Kiyukova. <i>Biokhimiya</i> 4, 509-510 (1969).— The invertase activity of leaves of quinine trees which withstand freezing temps. is rapidly lost on cooling to 0°, but is restored after prolonged exposure to 0°.	
When transferred back to 20-25°, the leaves of such trees recuperate their invertase synthesizing and hydrolyzing action. The leaves of the less hardy quinine trees when subjected to low temps., lose their invertase activity irreversibly, so that the synthesizing action, once lost cannot be restored.	
H. Prushev	
Inst. of Biochem. of the Academy of Sci. USSR, Moscow	
A.S.B.-S.L.A. METALLURGICAL LITERATURE CLASSIFICATION	

ca

110

Synthesis and hydrolysis of sucrose in the tissues of higher plants under the conditions of inhibited phosphorylation. N. Kiyukova. *Biochimica et Biophysica Acta* 574: 141-144 (1979). By the method of vacuum infiltration, it is shown that monochloroacetic acid and NaF, which inhibit phosphorylation in plant tissues, also greatly inhibit the synthesis of sucrose. Phosphorylation is thus necessary for the final synthesis of sucrose. H. J. Smith.

INST. OF BIOCHEMISTRY OF THE ACADEMY OF SCIENCES OF THE USSR,  
MOSCOW

ASB-512 METALLURGICAL LITERATURE CLASSIFICATION



<p>CA</p> <p>110</p> <p>Influence of geographical factors on the activity of peroxidase in plants. A. L. Kurbanov and N. S. Koyukova. <i>Russkimiya</i> 10, 97-103 (1945). - Higher peroxidase activity is found in the plants of the cold northern regions than in those of the warm southern districts. The peroxidase activity is associated with the intensity of respiration. The polar plants have a higher peroxidase activity because of a higher rate of respiration. H. Priestley</p>	
<p>INST. OF BIOCHEMISTRY IM. A.N. BAKH OF THE ACADEMY OF SCIENCES, USSR, MOSCOW</p>	
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>	

CA

12

Application of Selasny and Fischer-Bergmann reaction for the study of composition of tannic matter of tea. A. L. Kurbanov and N. N. Kryukova. *Russkimiya Khimicheskiye* (1946). No. 3, 23-24 English summary, 20-21. The Selasny reaction with  $\text{CH}_3\text{COHCl}$  (or  $\text{H}_2\text{SO}_4$ ) does not ppt. all tea tannins; hence it cannot be used quantitatively. The results are pptd. like gallotannins by the Fischer-Bergmann reaction (cf. O. Schmitt, *Die Methoden der Pflanzenerforschung*, 1941, Vol. 1, p. 31). A gallate type. As the plant ages the relationship among the groups varies and the Fischer-Bergmann precipitable fraction drops and the amt. of mixed type rises. Each of 3 fractions has materials sol. in  $\text{Et}_2\text{O}$ ; catechu-tannins contain some 50% of such products; with age the amt. of  $\text{Et}_2\text{O}$ -sol. matter drops. The other 2 fractions show increase of  $\text{Et}_2\text{O}$ -sol. substances with age. O. M. Koshlapoff

7A

7D

Age variation of tannins in the tea plant. N. S. Kryn-  
Lora. *Biokhimiya Chelanga Prosvetlitsa, Sverdlovsk No. 5*,  
41-46 (English summary, 40) (1966). Examined tea plants  
from 10 days to over 10 months of age showed that with aging  
the simple polyphenols and catechols gradually condense  
into larger aggregates of tannin-type. This process may be  
regarded as a part of respiration process in which part of the  
quinones formed are not reduced to catechols but undergo  
the irreversible condensation to tannins. Tannin of parts  
of a flowering tea plant showed that the woody portion con-  
tains no tannins, the bark contains 7.1 mg. g., opened flowers  
6.2 mg. g., and the flower buds 54.5 mg. g. Polyphenols,  
phloroglucinol, and "wood" tannin fractions are highest in  
the flowers and buds and lowest in the woody parts. Allam  
leaves show lower than normal tannin content, and the  
leaves of plants grown in wild-growing shaded areas display  
characteristics of much older plants grown in cultivated  
areas.

G. M. Kozlovskii

A

110

Seasonal changes of tannins in tea leaves. N. N. Kizyukova. *Russkaya Chaynaya Promyshlennost*, Shvach No. 5, 51-52 (1946) (English summary). The qualitative character of tea tannins varies with the seasons. The total tannins rise over the summer mainly by accumulation of the polyphenol-catechol fraction, i.e. the fraction that undergoes the main changes in the processing of green leaf into the black tea. Indications are obtained that tannins of tea leaves are mobile and are transported from the older to the younger, growing parts of the plant, a process which is accompanied by some cleavage of the tannin molecules.

G. M. Kozlovskii

17

CA

Inositol in tea leaves. N. S. Kryukova (Bach Biochem. Inst., Moscow). *Biochimica* 12, 516-23(1947).— From 100 g. of dry tea leaves, about 28 mg. of cryst. inositol can be isolated. The inositol in the bound form can be completely liberated by heating the aq. ext. for 12 hrs with 22%  $H_2SO_4$ . About 30-35% of the bound inositol is freed by treating the ext. with emulsin for 24 hrs. The total inositol content is 1% of the dry tea leaves. More free inositol is found in old leaves. H. Priestley

ADD SLA BIBLIOGRAPHICAL LITERATURE CLASSIFICATION

PROCESSING AND PROPERTIES																									
<p>11A</p> <p>11D</p> <p>Adsorption of organic substances by plants as related to plant respiration. A. Kursanov, N. Kopylova, and D. Sechenko. <i>Biokhimiya</i> 13, 450-64(1938); cf. C.A. 41, 3014, 2776c. The ability of plant tissues to adsorb substances from soils is not limited to enzymes but extends to other org. substances. The adsorption of invertase, glucose, sucrose, and glycine by leaves of <i>Cyclamen</i> is accompanied by an increased demand of the cells for O<sub>2</sub>. In an atm. poor in O<sub>2</sub>, the adsorption process is weak or stops altogether. Light increases adsorption by green plants, but is without effect on colorless plant tissues. The adsorbed org. substances induce a rapid but short-lived (15-30 min.) rise in respiration; this furnishes the cells the necessary energy for the adsorption process.</p> <p>H. Priestley</p>																									
<p>INSTITUTE OF BIOCHEMISTRY IM. A.M. BAKH, AC ADEMY OF SCIENCES, USSR, MOSCOW</p>																									
<p>ADDITIONAL METALLURGICAL LITERATURE CLASSIFICATION</p>																									

11.1

CA

INOSITOL as an intermediate in the transformation of sugars into polyphenols. A. I. Kuznetsov, N. N. Kiyukova, and E. Vysotskaya. *Doklady Akad. Nauk SSSR* (1968) — The inositol content of tea leaves increased 30-40% in 1.5 hrs. when the leaves were infiltrated with glucose or sucrose. The synthesis was much faster with sucrose than with glucose. This is explained as due to the enzymic liberation of glucose from sucrose in a form more susceptible for inositol synthesis. When salicin was used, the inositol content increased 2.5 times the initial value in 1.5 hrs.; for arbutin, the increase was 1.5 times. Glycerol and pyruvic acid were less effective than sugars in inositol synthesis. An increase in the phloroglucinol content was observed 22 hrs. after tea leaves were infiltrated with inositol. But infiltration with phloroglucinol did not lead to inositol formation. When fresh tea leaves were stored in the dark for 20 hrs., the glucose and sucrose contents decreased, and the inositol increased. Later, the inositol decreased, whereas the phloroglucinol increased. The speed with which sugars are converted into inositol is sufficiently rapid to explain the high tannin content in tea plants. There is no need to resort to the hypothesis that polyphenols are formed directly during photosynthesis.

H. Priestley

*Inst. Biochem. im. A. N. Bakh, AS USSR, Moscow*

ASB-55.4 METALLURGICAL LITERATURE CLASSIFICATION

Respiratory systems of barley seedlings and their participation in the absorption of glycine. N. N. Kryukova. (Dach. Biochem. Inst., Moscow). *Biokhimiya* 14, 339-43 (1949). — The absorption of org. substances by plants is accompanied by an increased O demand (C.A. 43, 1084c). When 6-day-old barley seedlings are immersed in a 1% glycine soln., the O absorbed increases by 7%. With 8-, 10-, and 12-day old seedlings, the increase is 8.5, 22, and 31%, resp. No increase in O absorption results if the barley seedlings are poisoned by diethyldithiocarbamate. Polyphenol oxidase, which is inhibited by this poison, is therefore responsible for the increased O absorption. The capacity of the seedlings for glycine absorption is not lessened when the polyphenol oxidase is inactivated by diethyldithiocarbamate. Apparently, the glycine absorption is associated with the other enzyme systems found in the seedlings, i.e., with the cytochrome systems and with the flavoproteins. H. Priestley



CA

12

Synthesis of polyphenols in tea leaf. A. L. Kurmanov and N. N. Kryukova. *Biokhimiya Cheloveka Proizvestiya Akademii No. 6, 7-19(1961)*.—The results of previous work are summarized (20 references) as follows. Sugars are transformed in tea leaves into phenolic substances, with intermediate formation of *m*-inositol, which is always present in leaves in free and bound forms. The intermediate is synthesized from hexoses that have the same root as glucose, but other sugars cannot be thus utilized. Sucrose, glucose-1-phosphate, arbutin, and malicin are transformed into inositol at an even greater rate than free glucose, indicating a favorable action of the glucoside link in this synthesis, indicating that degradation to simple sugars is probably not the first step. Intermediates of carbohydrate metabolism, such as pyruvic acid, show less rapid transformation into inositol or none at all. The inositol while being synthesized is simultaneously converted oxidatively to polyphenols with *m*-located HO groups (phloroglucinol derivs.) which eventually lead to the tea tannins. The reverse process is not observed in the tea leaf. G. M. Kozlovskii

PA 22712

USSR / Biology, Plant Physiology - 1 Aug 52  
Carbon Dioxide, Isotopes

"The Movement Through Plants of Carbon Dioxide  
Introduced by Way of the Roots," A. L. Kurenov,  
Corr Mem, Acad Sci USSR, N. N. Kryukova, B. B.  
Vartapetyan, Inst Biochem Imeni A. N. Belin, Acad  
Sci USSR

"Dok Ak Nauk SSSR", Vol 85, No 4, pp 913-916

States that concept of nourishment of plants  
through air is well established, but does not ex-  
plain the large yields obtained in intensive agri-  
cultural crops with  $\text{NaHCO}_3$  and  $\text{C}^{14}\text{O}_2$  demon-  
strated that  $\text{CO}_2$  is resorbed through the roots and  
assimilated by photosynthesis in the leaves.

22712

When the stem of the plant contains chlorophyll,  
most of the  $\text{CO}_2$  is intercepted in the stem and  
does not reach the leaves. Radiophotographs  
show that  $\text{C}^{14}\text{O}_2$  moves along definite lines in  
the stem, which presumably correspond to vas-  
cular fibrous bundles. An important factor is  
the evolution of large quantities of oxygen with-  
in the stem.

22712

KRYUKOVA, N. N.

KRYUKOVA, N.N.

The Committee on Scientific Prizes for the Council of Ministers (USSR) in the field of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for prizes for the years 1951 and 1952. (Sovetskaya Eniklura, Moscow, No. 22-24, 24 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Submitted by</u>
Kursanov, A.L.	"Plant Utilization of Soil	Institute of Biochemistry
Kuzin, A.M.	Carbon Dioxide Entering	Igori A.N. Sakh, Academy of
Kryukova, N.N.	Through the Roots"	Sciences USSR
Merenova, V.I.		

SOI W-3000. 1 July 1954

KRYUKOVA, H.M., kandidat biologicheskikh nauk.

Plant assimilation of carbonic acid through the roots. Est.v shkole no.5:  
21-22 8-0 '53. (MLBA 6:8)

1. Institut biokhimii imeni A.N.Bakha Akademii nauk SSSR.  
(Plants--Nutrition)

KRIUKOVA, N.

"Feeding Plants with Carbon Dioxide through the Roots", p. 13. (PRIRODA I ZNANIE, Vol. 6, no. 9, Nov. 1953, Sofiya, Bulgaria).

SO: Monthly List of East European Accessions, LC, Vol. 3, No. 4, April 1954

KURSANOV, A.L.; KRYUKOVA, N.N.; VYSKREBENTSEVA, E.I.

Products of CO<sub>2</sub> fixation in the dark, formed in plants during the consumption of carbon dioxide through roots. Biokhimiia 18 no.5:632-637 S-O '53.  
(MLRA 6:10)

1. Institut biokhimii im. A.N.Bakha Akademii nauk SSSR, Moscow.  
(Carbon dioxide) (Plants--Assimilation)

KURSANOV, A.L.; KRYUKOVA, N.N.; PUSHKAREVA, M.I.

Dark fixation and liberation of carbon dioxide supplied to the plant through its roots. Doklady Akad. Nauk S.S.S.R. 88, 937-40 '53. (MLBA 6:2) (CA 47 no.16:8195 '53)

1. A.N.Bakh Inst. Biochem., Acad. Sci. U.S.S.R., Moscow.

USSR/ Biology - Sugars

Card 1/1 : Pub. 124 - 18/29

Authors : Kryukova, N. N., Cand. of Biol. Sciences

Title : Formation of saccharose in garden beet-plants

Periodical : Vest. AN SSSR 6, 85-86, June 1954

Abstract : Minutes of joint meeting of two biological sciences institutions of the Academy of Sciences USSR, where the formation of saccharose in garden beet-plants, was debated.

Institution : ...

Submitted : ...

~~KURSA~~ APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R000826920006-

Effect of keto- and hydroxyacids on photosynthesis [with summary in English]. Biokhimiia 22 no.1/2:391-398 Ja-F '57. (MLBA 10:7)

1. Institut fiziologii rasteniy im. K.A.Timiryazeva i Institut biokhimii im. A.N.Bakha Akademii nauk SSSR, Moskva.  
(PHOTOSYNTHESIS) (PLANTS, EFFECT OF ACIDS ON)



L 58192-66 EWT(1)/EWT(m)/T/EWT(t)/ETI IJP(c) J0/J0  
ACC NR: AP6023613 SOURCE CODE: UR/0105/66/000/007/0056/0059

AUTHOR: Volle, V. M.; Grekhov, I. V.; Kryukova, N. N.; Tuchkevich, V. M.;  
Chelnokov, V. Ye.; Shuman, V. B.; Yakivchik, N. I.

ORG: Leningrad Physicotechnical Institute im. Ioffe, AN SSSR (Leningradskiy fiziko-  
tekhnicheskii institut. AN SSSR)

TITLE: VKDL-type diffused silicon avalanche power rectifiers 75

SOURCE: Elektrichestvo, no. 7, 1966, 56-59 41

TOPIC TAGS: semiconductor rectifier, silicon controlled rectifier 2

ABSTRACT: The development is reported of new types of diffused silicon power rectifiers. The rectifiers, which can be operated safely under high peak inverse voltages, differ from conventional diffused silicon rectifiers in that, due to special preparation of the p-n junction, the possibility of local electric breakdown at the intersection of the p-n junction with the surface is eliminated. Therefore, under peak inverse voltages, the process of avalanche breakdown takes place in the central section of the junction, while large power is dissipated in the inverse direction. In 1964, the Leningrad Physicotechnical Institute im. Ioffe, AS USSR, in cooperation with the "Elektrovyprymitel" Plant developed a series of such rectifiers bearing the designations VKDL-100, VKDL-200 and VKDL-350 for 100, 200, and 350 amp, respectively, and an 800-v operating voltage. The rectifying element of these devices is in the

Card 1/3

UDC: 621.382.3

ACC RM AP6723613

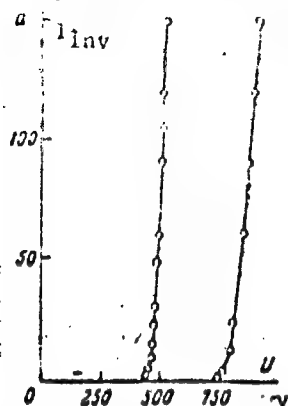


Fig. 1. Voltage-inverse current characteristic of the VKDL rectifiers

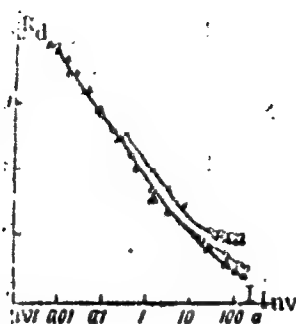


Fig. 2. Dependence of the dynamic resistance of the VKDL rectifiers on the inverse current

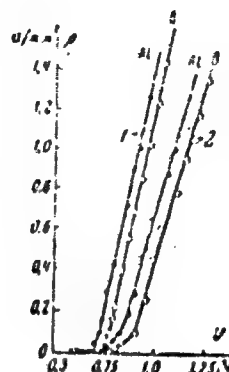


Fig. 3. Voltage-forward current characteristic of p-n junctions

form of a 25-mm silicon plate with a p-n-n<sup>+</sup> type conductivity. Two thermally compensating tungsten disks are pressed against the plate. A method of planar guard ring construction, described elsewhere (Haitz, R. M., A. Goetzberger, R. M. Scarlett,

Card 2/3

ACC NR: AP6023613

and W. J. Shockley, J. Appl. Phys., v. 34, 1963), was used to eliminate the possibility of surface breakdown. The p-n junctions were made by the method of phosphorus boron and aluminum diffusion. The boron p-n junction was 18 mm in diameter with a planar guard ring 2 mm wide. The thickness in the diffused layer in the central section of the silicon plate was 60—80  $\mu$ , and in the region of the guard ring, 120—160  $\mu$ . The thickness of the diffused layer formed by phosphorus on the side of the base contact was 20  $\mu$ . Typical voltage-inverse current characteristics of the rectifiers in the breakdown region at 500 and 800 v are shown in Fig. 1. The characteristics correspond to the central p-n junction. The breakdown voltage of the p-n junction in the guard ring exceeds that of the central p-n junction by 250—600 v depending on the initial silicon resistance. Dependence of the dynamic resistance of avalanche rectifiers on inverse current is shown in Fig. 2, and the voltage-forward current characteristic in Fig. 3. With respect to the forward voltage drop, the above devices are divided into three groups: those with a 0.4—0.5, 0.5—0.6, and 0.6—0.7 v forward voltage drop for a nominal current. The inverse current under nominal conditions for all rectifiers does not exceed 5 ma. The lifetime of the avalanche rectifiers is up to 25,000 hr. The number of thermal cycles ranging from -50 to +150°C should not exceed 5000 during the entire lifetime. The rectifiers can be connected either in series or in parallel. When connected in parallel, they should have equal forward voltage drops. Orig. art. has: 1 table and 8 figures.

[JR]

SUB CODE: 09/ SUBM DATE: 10May65/ ORIG REF: 003/ OTH REF: 001/ ATD PRESS:

5645

Card 3/3

KRYUKOVA, N.N.

Elaboration of technically sound production standards. Kons.  
1 ov. prom. 16 no.10:39-40 0 '61. (MIRA 14:11)

1. TSentral'noye byuro promyshlennykh normativov po trudu.  
(Canning industry--Production standards)

ACC NR: AP6033255

SOURCE CODE: UR/0109/66/011/010/1781/1788

AUTHOR: Grekhov, I. V.; Kryukova, N. N.; Chelnokov, V. Ye.

ORG: none

TITLE: Investigation of characteristics of silicon p-n junctions with controlled avalanche

SOURCE: Radiotekhnika i elektronika, v. 11, no. 10, 1966, 1781-1788

TOPIC TAGS: pn junction, silicon diode, avalanche diode

ABSTRACT: As the diffusion coefficient of Al at 1320C is higher by one order of magnitude than that of B, the breakdown voltage of a diffused-Al silicon specimen is much higher than that of a diffused -B specimen (experimental curves shown). Reverse-current I-V characteristics were measured in silicon p-n junctions equipped with (diffused-Al) guard rings, at 18-140C. Specimens with breakdown

Card 1/2

ACC NR: AP6033255

voltages of 440 and 770 v had resistivities of 5.5 and 15 ohms-cm, respectively. These controlled-avalanche junctions could withstand high short-time reverse voltages (heavy reverse currents). The p-n junctions suffered breakdown much earlier than surface breakdown would take place. The breakdown holes of 0.3—0.8-mm diameter occurred in the central (diffused-B) part of the specimens. The knockout energy is roughly constant which is seen from an experimental breakdown-power vs. pulse-duration plot. By using rippled d-c voltage and a cathode-ray oscillograph, the breakdown of individual microplasma was observed. Orig. art. has: 7 figures, 5 formulas, and 2 tables.

SUB CODE: 09 / SUBM DATE: 27May65 / ORIG REF: 002 / OTH REF: 004

Card 2/2

FETISOV, O.G.; KRYUKOVA, N.S.

Changes in the physiological properties of pollen in some apple varieties. Nauch. dokl. vys. shkoly; biol. nauki no.1:120-122 '60.  
(MIRA 13:2)

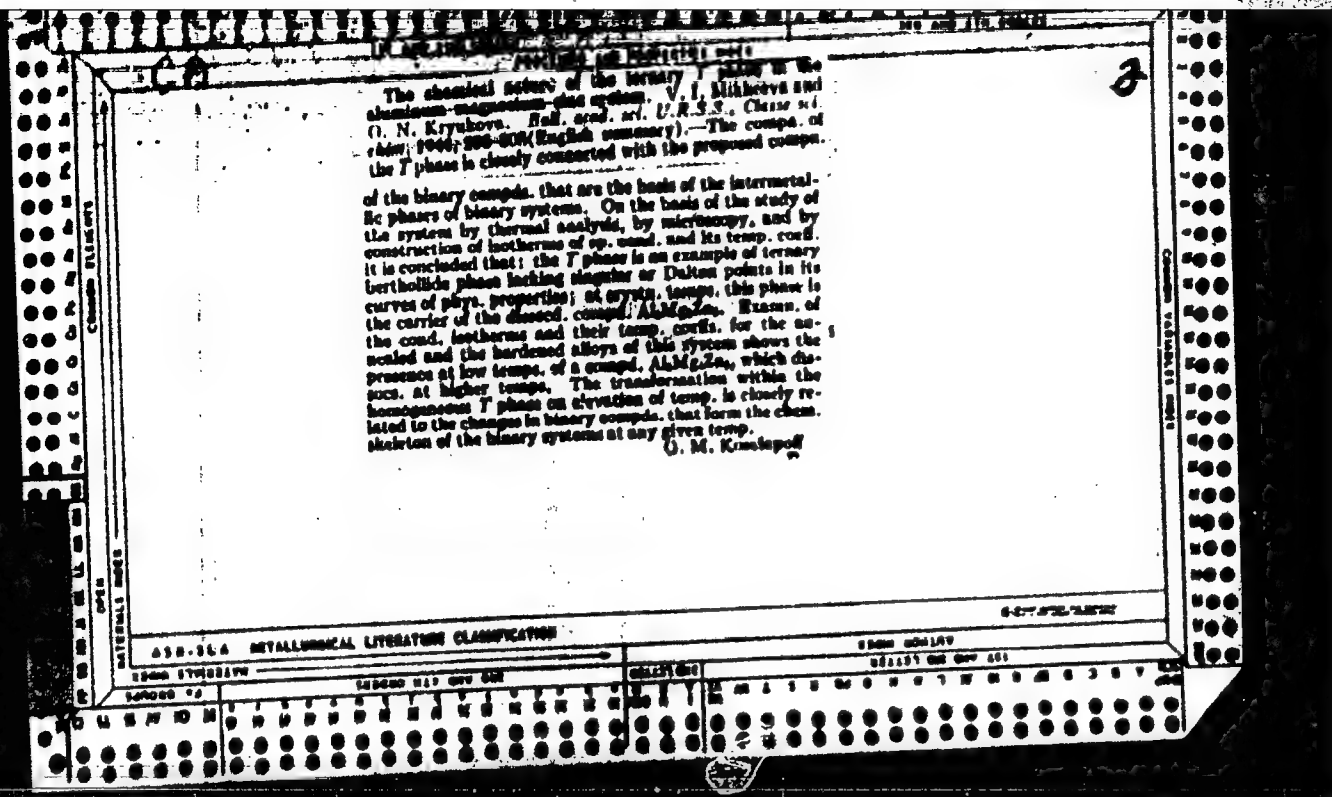
1.Rekomendovana Botanicheskim sadom Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.  
(Apple) (Pollen)

KRYUKOVA, O.F.; LUKASHINA, K.L.

Clinical aspects of acute systemic lupus erythematosus in  
children. *Pediatrics* 41 no.5:27-28 May '62. (MIRA 15:5)

1. Iz detskoy bol'nitsy Saranska (glavnyy vrach S.I. Dudenkova).  
(LUPUS ERYTHEMATOSUS)





KRYUKOVA, O. N.

USSR/Fusion  
Alloys, Fusible

May 1947

"Polythermic Volume of Crystallization of a Hard Mixture of Al-Mg-Zn," V, I. Michooba,  
O. N. Kryukova, 3 pp

"Doklady Akademii Nauk SSSR" Vol LVI, No 5

Discussion and diagram of results from the study of fusion of the subject alloys for  
varying composition.

PA 9T53

CA

Principles involved in the construction of a melting diagram for ternary metal systems. V. I. Mikhoeva and N. K. Kuznetsov (N. S. Kurnakov Inst. of Gen. and Inorg. Chem., Acad. Sci. U.S.S.R.), *Isvest. Akad. Nauk S.S.S.R. Khim. i Met.* (1969), No. 1, 100-101 (1969).—Three distinct types of melting diagrams are analyzed: Al-Mg-Co, Al-Mg-Zn, and Mg-Co-Zn. Of these, in the 1st crystalline stable compounds, Al<sub>3</sub>Co and Al<sub>3</sub>Co, so-called dodecagonal. The diagram there-fore resembles analogous diagrams of salts. The shape of the other 2 diagrams is different: these 2 systems form so-called eutectics. The behavior of the intermetallic compounds, in the systems Al-Mg-Zn and Mg-Co-Zn is ex-emplified by the application of the mass law assuming the nature of the intermetallic compounds. The nature of the liquidus diagram of these 2 ternary systems indicates that the ternary compounds, formed result from a number of reac-tions of binary intermetallic compounds, taking place simul-taneously. The singular elements corresponding to the formation of these compounds are brought out more clearly by the crystal. area of the solvent than by the metal itself. The diagrams of state and the nature of the metal alloys can be explained only by the chem. reactions be-tween the metals and the nature of the intermetallic compounds, formed in the course of these reactions.

M. H. H. H.

3  
③  
Melting diagram of the system copper-magnesium-zinc. I. I. Mikhayeva and O. N. Kryukova. *Izv. Akad. Nauk S.S.S.R. Khim. Anal.*, 1960, No. 10, 76-83 (1960). -- The phase diagram of the system was constructed from the results of thermal analysis and from microstructure studies. The phase diagram showed the existence of 2 intermetallic phases I and V. Phase I extended over a large crystalline area. At an equimolar ratio of all 3 components phase I had an apparent max. m.p. The properties of this phase indicated its berthollide nature. Phase V occupied only a small area. It formed from I by peritectic reaction and in its pure state had the compn.  $\text{CuMg}_2\text{Zn}$ . It appeared to be a triple daltonide. The diagram indicates that V formed according to  $\text{Cu} + 2\text{MgZn} \rightleftharpoons \text{CuMg}_2\text{Zn}$ .  $\text{CuMg}_2\text{Zn}$  resulted from a no. of simultaneously occurring reactions between single components and binary or pseudobinary compds. I extended over a wide range of temp. and concn. and its field of homogeneity and chem. compn. depended on these changes. M. Hough

**"APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R000826920006-8**

**APPROVED FOR RELEASE: 04/03/2001**

**CIA-RDP86-00513R000826920006-8"**

Kryukova, O. N.

C

USSR/Inorganic Chemistry. Complex Compounds.

Abs Jour: Ref. Zhur. Khimiya, No 1, 1958, 657.

Author : Mikhayeva, V. I., Shamray, F. I., Krilova, E. Ya. - I;  
Mikhayeva, V. I., Markina, V. Yu., Kryukova, O. N. - II;  
Shamray, F. I., Mikhayeva, V. I., Krilova, E. Ya. - III;  
Mikhayeva, V. I., Shamray, F. I., Krilova, E. Ya. - IV.

Title : Preparation of Amorphous Boron of High Purity - I;  
Physico-chemical Analysis of Reaction of Magnesium and  
Boron Anhydride - II;  
Purification of Amorphous Boron - III;  
Problem in Evaluation of Quality of Amorphous Boron - IV.

Orig Pub: Zh. Neorgan. Khimii, 1957, 2, No 6, 1223-1231; 1232-1241;  
1242-1247; 1248-1253.

Abstract: I. A study was made of the reduction reaction of  $B_2O_3$  with me-  
tallurgical, Li, Na., K. Be, Mg, Ca and Al, employing methods of thermo-

Card : 1/4

USSR/Inorganic Chemistry. Complex Compounds.

Abn Jour: Izv. Zhur. M Khimiya, No 1, 1959, 657.

graphy and chemical analysis to the solid reaction product obtained by acid treatment. It was confirmed that concurrently with borides of constant composition,  $\text{CaB}_6$  and  $\text{AlB}_{12}$ , amorphous phases of varying composition were also formed in large amount during reduction of  $\text{B}_2\text{O}_3$  with Na, K, Li, and Mg. To obtain amorphous boron (I) on a plant scale, the thermal reduction for reduction of  $\text{B}_2\text{O}_3$  with Mg, is recommended which, even after first acid treatment, secures a content of 80% in the form of basic mixture - 1%.

II. The reaction of  $\text{B}_2\text{O}_3$  with Mg was studied employing methods of differential thermal and complete chemical analysis of the reaction products while varying the concentration of each of the components of the reaction mixture from 0 to 100%. The basic reactions for preparation of boron by the thermal reduction process with magnesium were determined and the composition

Card : 2/b

C

USSR/Inorganic Chemistry. Complex Compounds.

Abs Jour: Ref. Zhur. Khimiya, No 1, 1958, 657

of the reaction mixture giving the highest yield and quality of I was established.

III. It was shown that the most rational method for preparation of I in the form of finely dispersed powder with high content of B consists in the vacuum purification of previously obtained "raw" boron prepared by thermal reaction using magnesium as a reducing agent. A high content of B (98% and higher) was secured by vacuum purification that surpasses the acidic treatment method which lowers the quality of the boron.

IV. It was shown that it was possible to use a more rapid method for determination of the total content of B by titrating the preparation I with a solution of alkali in the presence of mannite without separation of boric acid. Possibilities were indicated

Card 3/4



USSR/Inorganic Chemistry. Complex Compounds.

Abs Jour: Ref. Zhur. Khimiya, No 1, 1958, 657

for evaluation of the content of active B and of B that is combined in lower oxides utilizing concurrently cerimetric and aurometric methods.

Card 4/4

*Kryukova, O. N.*

S/078/60/005/008/006/018  
B004/B052

AUTHORS: Mikheyeva, V. I., Sterlyadkina, Z. K., Kryukova, O. N.  
TITLE: Fusion Diagram of the System <sup>Al</sup>Aluminum - <sup>Cu</sup>Copper - <sup>Li</sup>Lithium  
PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 8,  
pp. 1788-1795

TEXT: The authors first give a survey of the investigations published on the binary systems: Al - Cu (Ref. 3), Al - Li (investigated by F. I. Shamray and P. Ya. Sal'dau, Ref. 4), and Cu - Li (Refs. 5,6), and also a western paper (Ref. 7) on the ternary system. Then follows a description of their own method, the production of melts (analyses on Table 1), the thermal analyses by means of an N. S. Kurnakov pyrometer, and the investigation of the microstructure after etching with a 3 - 5% solution of HNO<sub>3</sub> in alcohol (Fig. 4). The total fusion diagram of the system (up to 75 atom% of Cu+Li) is depicted in Fig. 5, while Fig. 1 gives a section of Al<sub>2</sub>Cu - AlLi, Fig. 2 of Al - Cu:Li = 4:1, and Fig. 3 of Al - Cu:Li = 9:1. Table 2 gives the data of the 15 points of the

Card 1/2

**Fusion Diagram of the System Aluminum -  
Copper - Lithium**

S/078/60/005/008/006/018  
B004/B052

non-variant equilibrium. The system Al - Cu - Li is characterized by the crystallization of two ternary, incongruently melting phases: the S-phase consisting of the compound  $\text{Al}_2\text{CuLi}$ , and the T-phase, whose composition in the homogeneity range approaches the compound  $\text{Al}_6\text{CuLi}_3$ . At 526°C, the ternary eutectic which corresponds to the common crystallization of the solid aluminum solution, also to the  $\theta$ -phase ( $\text{Al}_2\text{Cu}$ ) and the S-phase ( $\text{Al}_2\text{CuLi}$ ), has the following composition: 73% of Al, 18.6% of Cu, and 8.4% of Li. All other non-variant points are transitional points. There are 5 figures, 2 tables, and 12 references: 6 Soviet, 2 US, 1 British, 2 German, and 1 Italian. ✓

SUBMITTED: May 27, 1959

Card 2/2

34826

S/020/62/142/005/018/022  
B110/B101

11.2322  
11.1240

AUTHORS: Mikheyeva, V. I., Selivokhina, M. S., and Kryukova, O. N.

TITLE: Melting diagram of the system potassium hydroxide - potassium boron hydride

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 5, 1962, 1086 - 1087

TEXT: To study the reduction of inorganics by alkali boron hydrides at elevated temperature, the melting diagram of readily fusible inorganics with alkali boron hydrides was investigated. Potassium boron hydride was obtained from:  $\text{NaBH}_4 + \text{KOH} \rightarrow \text{KBH}_4 + \text{NaOH}$ , eluted with alcohol, and dried in vacuo at  $80^\circ\text{C}$ ; it contained 99.5 %  $\text{KBH}_4$ . The weighed portions of  $\text{KBH}_4$  and  $\text{KOH}$  were filled in  $\text{N}_2$  atmosphere into a quartz test glass. The heating and cooling curves were plotted by means of Kurnakov pyrometer and Pt-PtRh thermocouple.  $\text{KBH}_4$  shows endothermic effects at: (1) melting at  $640^\circ\text{C}$  (reversible); (2) decomposition at  $690 - 700^\circ\text{C}$ ; and (3) beginning reaction of the alkali melt with the crucible material at  $780 - 800^\circ\text{C}$ .  $\text{KOH}$  shows thermal effects at: (1) polymorphous conversion at  $275^\circ\text{C}$ ; (2) Card (1/2)